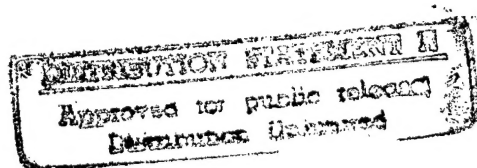


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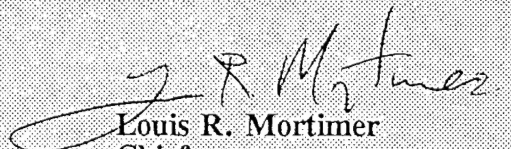
*Peter R. Blood
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PREFACE

This bibliography provides selective annotations of open-source material on two current issues:

- nuclear developments in South Asia, and
- tactics and organization of the Afghan resistance

The bibliography incorporates serials and monographs received in the previous month and is part of a continuing series on the above subjects.

Entries within each topic are arranged alphabetically by author or title. Call numbers for materials available in the Library of Congress are included to facilitate recovery of works cited.

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1. NUCLEAR DEVELOPMENTS IN SOUTH ASIA

GLOSSARY OF TERMS

AEMC	The Atomic Energy Minerals Center at Lahore is responsible for finding and recovering uranium ore, thereby filling a vital need stemming from boycotts of Pakistan by international nuclear fuel suppliers.
BARC	Bhabha Atomic Research Centre is located in north Bombay and is India's facility for research in and development of nuclear technology.
CHASHNUPP	Pakistan's Chashma Nuclear Power Plant, a projected 900-megawatt facility in Mianwali District, Punjab, was sanctioned in 1982 in order to create electrical power through light-water technology.
Cirus	A Candu-type Canadian-built plant located at BARC, Cirus was commissioned in 1960. India reprocessed spent fuel from Cirus to make the plutonium for its 1974 "peaceful nuclear explosion;" Cirus has a capacity of 40 megawatts.
Dhruva	One of the world's few high-flux reactors, Dhruva, which went critical in August 1985, is solely the product of Indian research and production, and therefore, falls completely outside IAEA safeguards. Dhruva shares facilities with Cirus, its neighbor in the BARC, has a 100-megawatt capacity, and can produce 30 kg of plutonium annually.
IAEA	International Atomic Energy Agency (United Nations)
Kalpakkam	This Tamil Nadu town is the site of the Indira Gandhi Atomic Research Center (formerly MAPP) and gives its name to a 40-megawatt fast-breeder reactor which went critical in August 1985 using plutonium-uranium carbide fuel.

KANUPP Karachi Nuclear Power Plant, a 125-megawatt reactor, was supplied by Canada on a turnkey basis and became operational in 1972.

MAPP-1 Madras Atomic Power Project's first Candu-type 235-megawatt unit was commissioned in January 1984. The center is located at Kalpakkam, Tamil Nadu, and was produced completely by Indian research and technology; consequently, its units and the plutonium they produce fall outside IAEA inspection safeguards. MAPP units are intended to provide electricity for Madras. In October 1985, MAPP was renamed the Indira Gandhi Atomic Research Center, but new names for individual plants have not been made public.

MAPP-2 The second unit at Madras Atomic Power Project is also a Candu-type 235-megawatt plutonium and heavy-water reactor. MAPP-2 went critical in August 1985 and was commissioned in October of the same year.

NPT The Nuclear Nonproliferation Treaty was ratified by the UN General Assembly in 1968. India and Pakistan contend that the NPT discriminates against nonnuclear states, but Pakistan has repeatedly offered to sign if India will do so simultaneously. In the UNGA, Islamabad voted in favor of the NPT.

PAEC Pakistan Atomic Energy Commission

PINSTECH Pakistan Institute of Nuclear Science Technology, the site of a US-supplied 5-megawatt "swimming pool"-type reactor installed in the 1960s

Tarapur The Tarapur nuclear power plant, located near Bombay, was built by the United States. It has a capacity of 600 megawatts and can annually produce 50 to 80 kg of plutonium. Tarapur and its products come under IAEA inspection safeguards.

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Department of Atomic Energy. Proceedings Of The Indo-French Seminar On Nuclear Energy: Bombay, April 1-4, 1985.
Bombay: Library & Information Services, BARC. 438 pp.
TK1078.I53 1985

This volume contains the text of twenty-five addresses given before the Indo-French Seminar on Nuclear Energy in April 1985. The addresses are divided into the following topics: the history of the nuclear energy program in the two countries; experience in the design, construction and operation of nuclear plants; the industrial infrastructure needed for nuclear power plants; the nuclear fuel cycle; nuclear safety; the economics of nuclear power, and research and development in the nuclear program.

The text is extensively illustrated with diagrams, tables and charts, and includes a transcript of the discussion after each paper as well as a list of the participants.

"Dhaka Planning 300 MW N-Plant." Telegraph (Calcutta), 11 February 1987, p. 3.

Bangladesh Energy Minister Anwar Hussain announces that government approval has been granted for a 300-MW nuclear plant to be built north of Dhaka near the Ganga River. Technical negotiations have begun with unspecified donor countries and agencies. The project is expected to cost US \$500-\$700 million.

"Heavy Water Plant On Tapti Banks." Indian Express (Bombay), 3 February 1987, p. 13.

Krishak Bharat Cooperative Limited (Kribhco) has started construction on a 110-ton heavy water unit on the Tapti River in Gujarat, adjacent to a newly-opened fertilizer plant. Formally owned by the Department of Atomic Energy, the unit will be operated and maintained by Kribhco after its scheduled opening in 1990. It is being built without foreign financial assistance, and relies on both domestic and imported technology.

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"India Can Make N-Parts: NPB." Times of India (Bombay), 21 February 1987, p. 23.

S.L. Kati, executive director of the Nuclear Power Board, announces that India's indigenization program has reached the stage at which the nation can rely on domestically produced nuclear components without adversely affecting the cost or the scheduling of construction. With public and private sector firms now producing main reactor vessels, steam generators, reactivity mechanisms and primary coolant pumps of sufficient quality, the overall cost of nuclear power is lower than that of thermal power involving coal transportation. Kati estimates the total outlay for the program of 10,000 MW by the year 2000 at approximately 140 billion rupees.

"India to Launch Thermonuclear Research." Patriot (New Delhi), 12 February 1987, p. 5.

The journal Nuclear India reports that the Bhabha Atomic Research Centre is setting up a Centre for Advanced Technology (CAT) to carry out research on the applications of lasers and accelerators in thermonuclear reactions. Scientists will focus on the development of high-powered pulsed and continuous lasers, including carbon dioxide axial lasers, transverse flow lasers and copper vapor lasers. The ultimate goal of the new center is to develop technologies to exploit fusion as an economical energy source for the 21st century. CAT will be located in Indore in Madhya Pradesh.

Malik, K.N. "Israel Had Offered To Bomb Kahuta." Times of India (Bombay), 25 February 1987, p. 1.

According to reports in the Western press, Israel has approached India on three separate occasions with an offer to bomb Pakistan's nuclear facility at Kahuta. The most recent offer, in July 1985, occurred during a Paris meeting between a personal envoy of Prime Minister Gandhi and senior Israeli diplomats. The proposed attack would

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have required India to provide landing facilities for Israeli jets in western India. In addition, the Israeli representatives were reportedly in possession of a satellite photograph of Kahuta supplied by US intelligence agencies.

Gandhi is reported to have turned down the Israeli offer out of concern for the effects that a joint Israeli-Indian attack would have on India's relations with the Soviet Union and the Arab world.

In addition to its bombing proposal, Israel is said to have offered to sell India "Levi" fighter bombers and sophisticated electronic equipment, and to have proposed cooperation in anti-terrorist operations.

Ministry of Atomic Energy. Compendium of Policy Statements Made In Parliament (New Delhi), Winter Session, 1986, pp. 40-46.

In a report before the Parliament, Minister of State for Atomic Energy K.R. Narayanan offers selected statistics on the nation's nuclear industry, including the unit energy cost, the capital cost per kilowatt and the actual generation of each of the operating nuclear reactors. For the period January-October 1986, the capacity factors are reported as follows: TAPS-I 86%; TAPS-II 52%; RAPS-II 68%; MAPS-I 40%; MAPS-II 42%. (RAPS-I is not operating because of damage to the south end shield.)

Narayanan further reports that work has commenced on a third and fourth reactor at RAPS and on two reactors at the Kaiga Atomic Power Project in Karnataka. Due to delays in the delivery of steam generators, the Narora Atomic Power Project in Uttar Pradesh is about fifteen months behind the approved target date.

"Narora Nuclear Project Almost Totally Indigenous." Statesman (Calcutta), 12 December 1986, p. 11. In JPRS-TND-87-003, 17 February 1987, pp. 33-34.

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With the completion of India's fourth nuclear power project in Narora, Uttar Pradesh, the nation's nuclear industry will have achieved 93% indigenization, with the remaining 7% consisting largely of imported raw materials.

This compares with 70% indigenization at the Kota plant (RAPP) and 90% at Kalpakkam (MAPP). All of the engineering work and major components of the Narora project are being provided by Indian companies, including Walchandnagar Industries, Bharat Heavy Electronics Ltd., Hindustan Brown Boveri, Kirloskar and Godrej. The design of the new 235-MW plant is part of a plan to standardize and rationalize the nuclear industry, with fourteen new reactors scheduled to be built according to similar specifications.

The first unit of the 235-MW Narora project is scheduled to go critical by December 1987.

"Pinstech Fabricates Sensitive Track Detecting Material."
Nucleonics Week (New York), vol. 28, no. 8, 19 February 1987, p. 17.

In a cooperative effort with the IAEA, the Solid State Nuclear Track Detection Laboratory at the Pakistan Institute of Nuclear Science and Technology (Pinstech) has succeeded in creating chromium-39, a highly sensitive track detecting material useful in uranium exploration and personnel and environmental dosimetry.

"Srinivasan Finally Made AEC Head." Times of India (Bombay), 10 February 1987, p. 1.

After a long controversy which polarized the scientific community, the government announces the appointment of Dr. M.R. Srinivasan as chairman of the Atomic Energy Commission and secretary of the Department of Atomic Energy. Srinivasan is scheduled to take over from the current chairman, Dr. Raja Ramanna, on March 1. Srinivasan's major competitor for the post was Dr. P.K. Iyengar, an experimental physicist and director of the Bhabha Atomic Research Centre. The controversy arose over

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the question of whether this top position in the nuclear program should be held by a scientist or an engineer such as Dr. Srinivasan. After Srinivasan's appointment, Iyengar announced his decision to retire from BARC.

2. TACTICS AND ORGANIZATION OF THE AFGHAN RESISTANCE

GLOSSARY OF TERMS

- Commander A resistance fighter who is recognized as a military leader in local or regional areas of conflict; some commanders are respected outside their own regions, but there is not yet a coordinated, nationwide, insurgent command in Afghanistan. The title commander is the only honorific or rank recognized by the resistance movement.
- Dushmani (singular: dushman) Soviet pejorative term for Afghan insurgents; it means "bandit" and originated during the 1930s Central Asia resistance.
- DRA The Democratic Republic of Afghanistan was established as the result of a coup led by Mohammad Nur Taraki and Hafizullah Amin in April 1978. Deteriorating internal security led to military intervention by the Soviet Union in December 1979 and Amin was killed by the invading troops. The Soviet invasion transformed armed resistance toward the modernistic but arbitrary reforms of Taraki and Amin into a war of national liberation.
- KHAD DRA intelligence service whose operations are entirely directed by its many Soviet KGB advisors. The acronym stands for Khedmat-Etala'at-e-Daulati (State Information Service). KHAD received ministerial rank in January 1986.
- Mujahideen (singular: mujahid) This Islamic term means "holy warrior," but it is most often used as a name for Afghanistan's resistance fighters, who consider their campaign a jihad (holy war) to drive unbelievers from their country.
- Spetznaz Soviet special warfare troops under the GRU (Military Intelligence Directorate) of the Soviet Ministry of Defense. These highly mobile units are deployed throughout Afghanistan for operations which require more skill or loyalty than is commonly displayed by Soviet or DRA troops.

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"Abdul Haq: My Fight With the Red Army." Jane's Defense Weekly (London), Vol. 7, No. 5, p. 181.

Abdul Haq, the young Hezbi-i-Islami commander of the Kabul region, interviewed shortly after the DRA made its offer for a ceasefire, has several observations on the war. Haq believes that the Soviet Spetznaz are the only occupation troops who have been trained to think for themselves. He maintains that their effectiveness, however, is limited--while the Spetnaz are good on the offensive, they react poorly when attacked. When asked about the increased difficulty in launching mujahed operations against Kabul, Haq responded that despite three security rings around the capital, his troops were regularly slipping through. He claimed that resistance success could be measured by its increased professionalism and improved tactical planning. The Hezbi commander said the Soviets are trying to show the Afghan populace that only in DRA-controlled areas is there peace. The primary task facing the resistance is to supplement their military strategy with an improved propaganda effort.

Crossette, Barbara. "Pakistan Downs an Afghan Intruder." New York Times, 31 March 1987, p. A3.

Pakistani pilots flying American-made F-16 fighters downed a DRA jet which had intruded 10 miles inside Pakistan. A Pakistani Defense Ministry spokesman warned that future intruders would also be intercepted.

Erulkar, Matthew D. "Praise God and Pass the Ammunition." Defense and Foreign Affairs (Washington, D.C.), Vol. XV, No. 2, p. 16-22.

The author believes that the only way to end the Afghan war is to make the cost of Soviet occupation too expensive for the Soviet economy to bear. He also suggests that the United States and other western countries pull their embassies out of Kabul and support the Afghan resistance in its bid to gain diplomatic recognition and a seat in the UN Assembly. Additionally, the author asks for a complete reevaluation of the military hardware donor

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countries give to the mujahideen. Insurgent military requirements range from basic equipment to complex weapons systems. Radio transceivers are needed to help in coordinated offenses against the Soviets. The author believes that there is a ready supply of 20,000 surplus NATO radio sets in storage in Europe that could be diverted to the Afghan resistance. At a more basic level a number of items are desperately needed: mine detectors, compasses, M-49 sniperscopes, day packs, water bottles, and 1:50,000 scale maps rather than the 1:100,000 scale maps currently available. Medical aid, which has focused on major injuries and diseases, needs to be expanded to cover the minor but debilitating ailments faced by the mujahideen in the field such as "scabies" or body mites--an infestation common to the rural communal guerrilla lifestyle. The author recommends supplying sleeping bags to the mujahideen to replace the large quilts they share and also quantities of DEET solution which can be brushed onto clothing to control fleas.

Netter, Thomas W. "Pakistan Accuses Afghans of Jeopardizing Talks." New York Times, 28 February 1987, p. 4.

Pakistan's Foreign Minister, Sahabzada Yaqub Khan, accused the DRA regime of deliberately jeopardizing the two nation's peace talks. Yaqub Khan expressed outrage over the bombings near the Pakistani border town of Miranshah where he estimated at least 35 people were killed and 200 wounded. DRA official Karum Shadan denied the attacks but refused to comment when challenged by a reporter who said he witnessed the attack.

Sciolino, Elaine. "Afghan War: Was Aid Stolen?" New York Times, 24 March 1987, p. A14.

The General Accounting Office is investigating allegations that millions of dollars in covert military aid intended for the Afghan mujahideen never reached them. Some members of the Senate Foreign Relations Committee have estimated that between 30 and 50 percent of the CIA-directed aid has been siphoned off either by

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intermediaries, the Pakistani military, or by the insurgents themselves. Monitoring the aid is problematic because Pakistani officials allow only a handful of American agents to oversee operations inside Pakistan. Nevertheless, American aid to the mujahideen has steadily increased, jumping from \$280 million in fiscal 1985 to \$470 million in fiscal 1986 and \$630 million in the current fiscal year.

"Soviet-Built Cross-Border Tunnel Most Vulnerable." Pakistan Times (Lahore), 15 February 1987, p. 7.

The 3,400 metre Salang Tunnel was built 25 years ago by the Soviets and is now considered to be of critical strategic importance to the Soviet occupation in Afghanistan. A vital supply link between the Soviet Union and Kabul, the tunnel is a constant target for attack by the mujahideen. Approximately 2,500 Soviet troops are tasked with keeping the tunnel open. Soviet military convoys can use the tunnel at any time but Afghan soldiers are not allowed to enter the vicinity of the tunnel unless they carry passes issued by Soviet commanders.

Weintraub, Richard M. "Quest for Afghan Settlement Moves Slowly." Washington Post, 19 March 1987, p. A34.

The author discusses some of the seemingly insurmountable obstacles standing in the way of a peaceful resolution of the Afghan war. Because the latest round of the UN-sponsored talks between Pakistan and Afghanistan failed to come up with a mutually acceptable timetable for a Soviet troop withdrawal, involved diplomats are now looking outside the UN framework for a successful formula for national reconciliation. Such a formula would probably be contingent on whether both the DRA and the mujahideen would be willing to accept an interim government which would rule while the Soviets departed. So far, the exiled king, Zahir Shah, has been the only candidate considered able to serve as a unifying force. Informal polls taken at the refugee camps indicate that he still enjoys overwhelming support. Among the seven

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mujahideen groups recognized by Pakistan, however, only three would agree to his return, however temporary it might be. Observers note that even if an interim political agreement could be reached, its imposition on a bitter and fractious population would be difficult. Possible scenarios of national reconciliation, insists the author, are still in the highly speculative stage. The central issue still remains--do the Soviets really intend to withdraw their troops?